

WHAT IS CLAIMED IS:

1. A method for calibrating a propagation delay in a network trunk comprising the steps of:

5 (a) providing a counter in each of first and second network switches in a network switch system;

(b) each counter calculating a time period T_i from sending a marker in the first network switch until receiving a trunk package acknowledgement marker from the second network switch and a time period T_t from receiving the trunk package and the marker in the second network switch until generating an
10 acknowledgement marker containing the trunk package;

(c) commanding the second network switch to append the time period T_t to the acknowledgement marker prior to sending the acknowledge marker back to the first network switch;

(d) reading out the time gap T_t after the first network switch has received the
15 acknowledgement marker; and

(e) calculating a time delay T_x by an equation $T_x = (T_i - T_t)/2$ wherein the time delay T_x is caused by sending the trunk package on each channel between the first and the second network switches.

20 2. The method of claim 1, wherein the second network switch is operable to decode the received trunk package for calibrating the propagation delay based on the time delay T_x in order to determine a time gap between the packages in the same channel, thereby obtaining a correct data stream from the trunk package.

25 3. The method of claim 1, wherein each node n in the interconnected first and second network switches is operable to generate a marker in the first network switch and an acknowledgement marker in the second network switch through a transmitter and a receiver therein respectively, whereby, the node in the first

network switch is capable of performing a communication of transmitting and receiving the package with respect to the node in the second network switch.

4. The method of claim 3, further comprising a register in each of the first and second network switches for recording the propagation delay caused by a line corresponding to the node in each of the first and second network switches.

5. The method of claim 4, wherein the maximum propagation delay T_{max} occurred in the line by both the first and second network switches is set as base for calibrating the internal propagation delay, whereby derive an equation $T_s(n) = T_{max} - T_x(n)$ by utilizing the T_{max} where $T_x(n)$ is propagation delay of the line corresponding to each node n and obtain a calibration value of the propagation delay $T_s(n)$.

6. The method of claim 5, wherein each of the first and second network switches decodes each received data package based on the calibration value of the propagation delay $T_s(n)$ for calibrating the propagation delay caused by the line corresponding to the node in each of the first and second network switches, whereby determine a time gap T_s between the packages in the same channel and obtain the correct data stream.